## ABSTRACT

Discoveries are disclosed that show particular aspects of recombinant DNA technology can be used successfully to produce a hitherto unknown type of human Platelet-Derived Growth Factor (PDGF) receptor protein free of other PDGF receptors. These proteins can be produced from DNA segments in cells in various functional forms. These forms variously enable biochemical and functional studies of these novel receptors as well as production of antibodies. Means are described for determining the level of expression of genes for specific types of PDGF receptor proteins, for example, by measuring mRNA in cells with PDGF receptor type-specific DNA probes or by measuring antigen in biological samples with type-specific antibodies.

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A DNA sequence which encodes a human type α platelet derived growth factor receptor protein which preferentially binds to the AA homodimer and AB heterodimer forms of platelet derived growth factor and also binds the BB homodimer at high afffinity, is described. Substantially pure human α platelet derived growth factor receptor protein and methods for recombinantly producing human α platelet derived growth factor receptor protein are also described.